

***NATIONAL WEATHER SERVICE INSTRUCTION 10-511
OCTOBER 1, 2002***

***Operations and Services
Public Weather Services, NWSPD 10-5***

WFO SEVERE WEATHER PRODUCTS SPECIFICATION

NOTICE: This publication is available at: <http://www.nws.noaa.gov/directives/>

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<u>Signed</u>	<u>10/01/02</u>
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WFO Severe Weather Products Specification

<u>Table of Contents:</u>	<u>Page</u>
1. Introduction	4
2. Areal Outline Statement (SLS)	4
2.1 Mission Connection	4
2.2 Issuance Guidelines	4
2.2.1 Creation Software	4
2.2.2 Issuance Criteria	4
2.2.3 Issuance Time	4
2.2.4 Valid Time	4
2.2.5 Product Expiration Time	4
2.3 Technical Description	4
2.3.1 MND Broadcast Line	4
2.3.2 MND Header	4
2.3.3 Content	4
2.3.4 Format	5
2.4 Updates, Amendments and Corrections	5
3. Severe Thunderstorm Warning (SVR)	5
3.1 Mission Connection	5
3.2 Issuance Guidelines	5
3.2.1 Creation Software	6
3.2.2 Issuance Criteria	6
3.2.3 Issuance Time	6
3.2.4 Valid Time	6
3.2.5 Product Expiration Time	6
3.3 Technical Description	6
3.3.1 MND Broadcast Line	6
3.3.2 MND Header	6
3.3.3 Content	6
3.3.4 Format	8
3.4 Updates, Amendments and Corrections	9
4. Tornado Warning (TOR)	9
4.1 Mission Connection	9
4.2 Issuance Guidelines	9
4.2.1 Creation Software	9
4.2.2 Issuance Criteria	9
4.2.3 Issuance Time	9

4.2.4	Valid Time	9
4.2.5	Product Expiration Time	9
4.3	Technical Description	9
4.3.1	MND Broadcast Line	9
4.3.2	MND Header	9
4.3.3	Content	9
4.3.4	Format	11
4.4	Updates, Amendments and Corrections	12
5.	Severe Weather Statement (SVS)	12
5.1	Mission Connection	12
5.2	Issuance Guidelines	12
5.2.1	Creation Software	12
5.2.2	Issuance Criteria	12
5.2.3	Issuance Time	12
5.2.4	Valid Time	12
5.2.5	Product Expiration Time	12
5.3	Technical Description	12
5.3.1	MND Broadcast Line	12
5.3.2	MND Header	12
5.3.3	Content	12
5.3.4	Format	13
5.4	Updates, Amendments and Corrections	13
6.	Special Weather Statement (SPS)	13
Appendix A.	Examples	A-1

1. Introduction. This procedural instruction describes the severe weather products issued by Weather Forecast Offices (WFO), guidelines associated with these products, detailed content as needed, and a generic format for each product type.

2. **Areal Outline Statement (Product Category SLS).**

2.1 Mission Connection. One WFO per state (designated by Regional Headquarters) in the continental United States will issue Areal Outline Statements to define the counties included in an initial Severe Thunderstorm or Tornado Watch. This type of statement provides the public and emergency managers with the names of counties and cities threatened by potential severe weather.

2.2 Issuance Guidelines.

2.2.1 Creation Software. Designated WFOs should use WarnGen or WWA to create SLSs.

2.2.2 Issuance Criteria. An SLS is issued after receiving the SPC Tornado and/or Severe Thunderstorm Watch and coordinating counties with affected adjacent WFOs.

2.2.3 Issuance Time. WFOs should issue the SLS no later than 15 minutes after a SPC Severe Thunderstorm or Tornado Watch issuance. However, the issuance time will be set to match the issuance time of the SPC Watch.

2.2.4 Valid Time. SLSs are valid until the expiration time of the SPC Severe Weather Watch.

2.2.5 Product Expiration Time. WFOs will set the expiration time equal to the time found in the SPC Severe Weather Watch.

2.3 Technical Description. SLSs should follow the format and content described in this section.

2.3.1 Mass News Disseminator Broadcast Line. None.

2.3.2 Mass News Disseminator Header. The SLS MND header is “(STATE) OUTLINE FOR TORNADO (or SEVERE THUNDERSTORM) WATCH NUMBER ###”, where ### is the watch number and “STATE” is replaced with the state name.

2.3.3 Content. One designated CONUS WFO per state will issue SLSs for their time zone(s). This statement should not change the watch area, however WFOs may make minor adjustments along the edges of the watch area for zone forecast boundaries, large cities, metropolitan areas, marine break points, adjacent coastal waters and other significant geographical features. Adjacent coastal waters refers to a WFO’s near shore responsibility (out to 5 miles for the Great Lakes, and out to 20 miles for oceans). WFOs may subdivide very large counties into the nine

part divisions (i.e., northeast, east central, etc.) to allow a more precise definition of the watch area, otherwise this statement should describe parts of a state in terms of whole counties.

2.3.4 Format.

WWUS3i Kccc ddhhmm
SLSST

[STATE] OUTLINE FOR SEVERE THUNDERSTORM WATCH NUMBER ###
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon dd yyyy

SEVERE THUNDERSTORM WATCH NUMBER ### IS IN EFFECT UNTIL XXX AM/PM
TIME ZONE AND INCLUDES THE FOLLOWING STATE COUNTIES... (The ellipsis is
critical to mark the end of the text, and signal that UGC codes follow)

STC001-002-003-ddhhmm

PORTION OF STATE (OPTIONAL)
LIST OF COUNTIES
LIST OF CITIES IN THE COUNTIES MENTIONED ABOVE (OPTIONAL)

\$\$ (END OF SEGMENT)

STC001-002-003-ddhhmm

PORTION OF STATE (OPTIONAL)
LIST OF COUNTIES
CITIES (OPTIONAL)

\$\$ (END OF SEGMENT)

Figure 1. Areal Outline Statement Format

2.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. WFOs will correct statements for format and grammatical errors as required.

3. **Severe Thunderstorm Warning (product category SVR).**

3.1 Mission Connection. Severe Thunderstorm Warnings protect lives and property. WFO forecasters issue severe thunderstorm warnings to provide the public and emergency managers with advance notice of damaging wind gusts and large hail.

3.2 Issuance Guidelines.

NWSI 10-511 OCTOBER 1, 2002

- 3.2.1 Creation Software. WFOs will use WarnGen to issue Severe Thunderstorm Warnings.
- 3.2.2 Issuance Criteria. WFOs should issue Severe Thunderstorm Warnings when there is radar indication and/or reliable spotter reports of wind gusts equal to or in excess of 50 knots (58 mph) and/or hail size of 3/4 inch diameter or larger.
- 3.2.3 Issuance Time. Warnings are non-scheduled, event driven products.
- 3.2.4 Valid Time. Valid times should be 30 to 60 minutes. After 60 minutes, WFOs should issue a new warning to extend the valid time.
- 3.2.5 Product Expiration Time. The product expiration time is the end of warning valid time.
- 3.3 Technical Description. SVRs will follow the format and content described in this section.
- 3.3.1 Mass News Disseminator Broadcast Line. SVRs should include the broadcast line “BULLETIN - EAS ACTIVATION REQUESTED.” If a state does not require EAS activation for SVRs, the broadcast line will read “BULLETIN - IMMEDIATE BROADCAST REQUESTED.” The term “BULLETIN” is used when information is sufficiently urgent to warrant breaking into a normal broadcast.
- 3.3.2 Mass News Disseminator Header. The SVR MND header is “SEVERE THUNDERSTORM WARNING”.
- 3.3.3 Content. WFOs will not combine Severe Thunderstorm and Flash Flood Warnings. Severe Thunderstorm Warnings will include the possibility of tornadoes if a Tornado Watch is in effect. If a severe thunderstorm moves over coastal waters, a Special Marine Warning will be issued. Severe Thunderstorm Warnings will follow a standard bullet style format. WFOs should keep bullets brief. WFOs should include call to action statements. The WFO Shift Leader on duty may discontinue call to action statements in warnings during widespread severe weather outbreaks.

Locations should be larger towns and other familiar landmarks. WFOs may reinforce the warning with recent history to support their reasoning. Names of states and counties (or parts of counties) should be spelled out. WFOs should use the the nine part divisions (i.e., northeast, east central, etc.) to identify portions of states or counties under warnings. WFOs may use mileage markers as reference points in rural areas when a storm is occurring or forecast to move over a major highway. The county FIPS code will identify the counties in the warning area (Alaska and Pacific Regions are permitted to use zone codes).

The SVR format will contain this information in the following order:

- a. Type of warning; and warning location(s)

- b. Valid time;
- c. Time, basis for warning; forecast impacts (range of hail sizes and wind gusts);
- d. Indicate which locations are to be impacted during the warning, including a pathcast as appropriate (Regional Supplements should convey recommended pathcast format);
- e. A BRIEF concluding paragraph with additional information, and call-to-action should be included; and
- f. The latitude and longitude pairs outlining the ‘area of greatest impact’ polygon drawn in WarnGen will be included after the fourth bullet and call to action. Forecasters should draw the polygon to be a subset of the warned county(ies) and show only the area where severe weather is expected (i.e. unless severe weather is expected to cover the entire county, do not mirror the warned county outline).

3.3.4 Format.

WUaa5i cccc ddhhmm
SVRccc
STC001-002-ddhhmm-

BULLETIN - EAS ACTIVATION (or IMMEDIATE BROADCAST) REQUESTED
SEVERE THUNDERSTORM WARNING (...CORRECTED as required)
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon dd yyyy

THE NATIONAL WEATHER SERVICE IN CITY
HAS ISSUED A

* SEVERE THUNDERSTORM WARNING FOR...
COUNTY ONE IN SECTION STATE (List warned counties)
COUNTY TWO IN SECTION STATE (# Counties will match # counties in UGC Line)

* UNTIL XYZ AM/PM TIME ZONE (Expiration time of warning)

* AT XXY AM/PM TIME ZONE...(Warning basis statement)
(List impacts, including expected hail sizes and range of wind gusts)

* THE SEVERE THUNDERSTORM WILL BE NEAR... (Pathcast Version)
LOCATION #1 AROUND XYZ AM/PM
LOCATION #2 AROUND XYZ AM/PM

OR

LOCATIONS IMPACTED INCLUDE... (No Pathcast Version)
LOCATION #1
LOCATION #2

(Impact Locations are mandatory, either pathcast or no pathcast version listed above)

CALL TO ACTION

LAT...LON (Mandatory list of latitude/longitude points outlining the forecaster-drawn
polygon
in WarnGen)

FORECASTER NAME/NUMBER (OPTIONAL)
\$\$

Figure 2. Severe Thunderstorm Warning Format

3.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. WFOs will reissue Severe Thunderstorm Warnings for significant grammatical errors, or format errors in counties already covered by a warning. WFOs will issue Severe Weather Statements for erroneous counties included in warnings (either in the FIPS code or in the body of the warning).

4. **Tornado Warning (product category TOR).**

4.1 Mission Connection. Tornado warnings protect lives and property. WFO forecasters issue tornado warnings to provide the public and emergency managers with advance notice of tornadoes.

4.2 Issuance Guidelines.

4.2.1 Creation Software. WFOs will use WarnGen to issue tornado warnings.

4.2.2 Issuance Criteria. WFOs should issue Tornado Warnings when there is radar indication and/or reliable spotter reports of a tornado.

4.2.3 Issuance Time. Warnings are non-scheduled, event driven products.

4.2.4 Valid Time. Valid times should be 30 to 60 minutes. After 60 minutes, WFOs should issue a new warning to extend the valid time.

4.2.5 Product Expiration Time. The product expiration time is the end of warning valid time.

4.3 Technical Description. TORs will follow the format and content described in this section.

4.3.1 Mass News Disseminator Broadcast Line. TORs will include the broadcast line “BULLETIN - EAS ACTIVATION REQUESTED.” The term “BULLETIN” is used when information is sufficiently urgent to warrant breaking into a normal broadcast.

4.3.2 Mass News Disseminator Header. The TOR MND header is “TORNADO WARNING.”

4.3.3 Content. If a tornado moves over coastal waters, a Special Marine Warning will be issued. Tornado Warnings will follow a standard bullet style format. WFOs should keep bullets brief. WFOs should include a call to action statement. The WFO Shift Leader on duty may discontinue call to action statements in warnings during widespread tornadic outbreaks.

Locations should be larger towns and other familiar landmarks. WFOs may reinforce the warning with recent history to support their reasoning. Names of states and counties (or parts of counties) should be spelled out. WFOs should use the nine part divisions (i.e., northeast, east central, etc.) to identify portions of states or counties under warnings. WFOs may use mileage markers as reference points in rural areas when a storm is occurring or forecast to move over a

NWSI 10-511 OCTOBER 1, 2002

major highway. The county FIPS code will identify the counties in the warning area (Alaska and Pacific Regions are permitted to use zone codes).

The TOR format will contain this information in the following order:

- a. Type of warning; warning location(s)
- b. Valid time;
- c. Time, basis for warning; forecast impacts;
- d. Indicate which locations are to be impacted during the warning, including a pathcast as appropriate (Regional Supplements should convey recommended pathcast format);
- e. A BRIEF concluding paragraph with additional information, and call-to-action should be included; and
- f. The latitude and longitude pairs outlining the “area of greatest impact” polygon drawn in WarnGen will be included after the fourth bullet and call to action. Forecasters should draw the polygon to be a subset of the warned county(ies) and show only the area where severe weather is expected (i.e. unless severe weather is expected to cover the entire county, do not mirror the warned county outline).

4.3.4 Format.

WFaa5i cccc ddhhmm
TORccc
STC001-002-ddhhmm-

BULLETIN - EAS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon dd yyyy

THE NATIONAL WEATHER SERVICE IN CITY
HAS ISSUED A

* TORNADO WARNING FOR
COUNTY ONE IN SECTION STATE (List warned counties)
COUNTY TWO IN SECTION STATE (# Counties will match # counties in UGC Line)

* UNTIL XYZ AM/PM TIME ZONE (Expiration time of warning)

* AT XXY AM/PM TIME ZONE...(Warning basis statement and forecast impacts)

* THE TORNADO WILL BE NEAR... (Pathcast Version)
LOCATION #1 AROUND XYZ AM/PM
LOCATION #2 AROUND XYZ AM/PM

OR

LOCATIONS IMPACTED INCLUDE... (No Pathcast Version)
LOCATION #1
LOCATION #2

(Impact Locations are mandatory, either pathcast or no pathcast version listed above)

CALL TO ACTION

LAT...LON (Mandatory list of latitude/longitude points outlining the forecaster-drawn
polygon
in WarnGen)

FORECASTER NAME/NUMBER (OPTIONAL)
\$\$

Figure 3. Tornado Warning Format

4.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. WFOs will reissue Tornado Warnings for significant grammatical errors, or format errors in counties already covered by a warning. WFOs will issue Severe Weather Statements for erroneous counties included in warnings (either in the FIPS code or in the body of the warning).

5. **Severe Weather Statement (product category SVS).**

5.1 Mission Connection. Severe Weather Statements (SVS) provide the public and emergency managers with updated information for specific Severe Thunderstorm and Tornado Warnings. Updated information includes reports of observed severe weather. They also inform the public and emergency managers when all or portions of a warning have been canceled or have expired.

5.2 Issuance Guidelines.

5.2.1 Creation Software. WFOs will use WarnGen to issue Severe Weather Statements.

5.2.2 Issuance Criteria. WFOs will issue a SVS to provide notice a Severe Thunderstorm or Tornado Warning has expired and to cancel all or portions of a warning. WFOs will issue a SVS for erroneous counties included in Severe Thunderstorm or Tornado Warnings (either in the FIPS code or in the body of the warning). WFOs should issue SVSs at least once during the valid time of a Severe Thunderstorm or Tornado Warning.

5.2.3 Issuance Time. Severe Weather Statements are non-scheduled, event driven products.

5.2.4 Valid Time. The valid time will be from the time of issuance to the warning expiration time.

5.2.5 Product Expiration Time. The product expiration time is no more than 15 minutes after the warning expiration or cancellation time.

5.3 Technical Description. SVSs will follow the format and content described in this section.

5.3.1 Mass News Disseminator Broadcast Line. None.

5.3.2 Mass News Disseminator Header. The SVS MND header is "SEVERE WEATHER STATEMENT."

5.3.3 Content. WFOs should issue Severe Weather Statements to address the status of severe weather warnings. A Severe Weather Statement will use the county FIPS codes (Alaska and Pacific Regions are permitted to use zone codes). WFOs will not use Severe Weather Statements to extend convective watches or warnings. If the WFO Shift Leader on duty has discontinued call to action statements in warnings, a SVS with a call to action statement will be issued to cover the widespread severe weather event for its duration.

5.3.4 Format.

WWUS5i Kccc ddhhmm
SVSccc
STC001-003-ddhhmm-

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE CITY STATE
time am/pm time_zone day mon dd yyyy

...SEVERE THUNDERSTORM WARNING REMAINS IN EFFECT FOR COUNTIES A
AND B UNTIL TIME XYZ PM TIME ZONE....

UPDATED LOCATION AND MOVEMENT OF SEVERE THUNDERSTORMS. SPOTTER
REPORTS OF SEVERE WEATHER. LOCATIONS TO BE AFFECTED BY SEVERE
THUNDERSTORMS IN THE NEAR TERM (VALID TIME OF THE WARNING).

\$\$

FORECASTER NAME/NUMBER (OPTIONAL)

Figure 4. Severe Weather Statement Format

5.4 Updates, Amendments and Corrections. Updates and amendments are not applicable. WFOs will correct statements for format and grammatical errors as required.

6. **Special Weather Statement (Product Category SPS).** WFOs will issue Special Weather Statements (SPS) to cancel all or portions of SPC Severe Thunderstorm and Tornado Watches. For more information on SPSs, see National Weather Service Instruction 10-707 "Multi-Purpose Products."

APPENDIX A - Examples

<u>Table of Contents:</u>	<u>Page</u>
1. Introduction	A-2
2. Areal Outline Statement	A-2
3. Severe Thunderstorm Warning	A-3
4. Tornado Warning	A-4
5. Severe Weather Statement	A-5

1. Introduction. This appendix provides the public with examples of severe weather products issued by WFOs.
2. Areal Outline Statement.

WWUS65 KPHX 142318
SLSAZ
STATE OUTLINE FOR SEVERE THUNDERSTORM WATCH NUMBER 673
NATIONAL WEATHER SERVICE PHOENIX AZ
415 PM MST TUE AUG 14 2001

THIS SEVERE THUNDERSTORM WATCH IS IN EFFECT UNTIL 1000 PM MST AND
INCLUDES THE FOLLOWING ARIZONA COUNTIES...

AZC015-150500-
NORTHWEST ARIZONA
SOUTHERN MOHAVE

\$\$

AZC012-150500-
WEST CENTRAL ARIZONA
LA PAZ

\$\$

AZC027-150500-
SOUTHWEST ARIZONA
YUMA

\$\$

AZC013-150500-
SOUTH CENTRAL ARIZONA
WESTERN MARICOPA

\$\$

&&

\$\$

3. Severe Thunderstorm Warning.

WUUS54 KFWD 192344
SVRFTW
TXC333-200030-

BULLETIN - IMMEDIATE BROADCAST REQUESTED
SEVERE THUNDERSTORM WARNING
NATIONAL WEATHER SERVICE FORT WORTH TX
543 PM CST TUE MAR 19 2002

THE NATIONAL WEATHER SERVICE IN FORT WORTH
HAS ISSUED A

* SEVERE THUNDERSTORM WARNING FOR...
MILLS COUNTY IN NORTH CENTRAL TEXAS

* UNTIL 630 PM CST

* AT 543 PM CST...NATIONAL WEATHER SERVICE DOPPLER RADAR DETECTED A
SEVERE THUNDERSTORM 15 MILES WEST OF GOLDTHWAITE...MOVING
NORTHEAST AT 50 MPH. DAMAGING WINDS IN EXCESS OF 60 MPH ARE LIKELY
WITH THIS STORM.

* THE SEVERE THUNDERSTORM WILL BE NEAR...
GOLDTHWAITE AROUND 600 PM CST

TAKE COVER IN A STURDY STRUCTURE UNTIL THE STORM PASSES. A TORNADO
WATCH IS IN EFFECT FOR THE WARNING AREA. SEVERE THUNDERSTORMS CAN
PRODUCE TORNADOES WITH LITTLE OR NO WARNING.

LAT...LON 3147 9905 3126 9857 3143 9831 3172 9852
\$\$

4. Tornado Warning.

WFUS52 KMHX 061730
TORMHX
NCC013-147-061815-

BULLETIN - EAS ACTIVATION REQUESTED
TORNADO WARNING
NATIONAL WEATHER SERVICE NEWPORT/MOREHEAD CITY NC
130 PM EDT TUE MAY 6 1997

THE NATIONAL WEATHER SERVICE IN NEWPORT/MOREHEAD CITY
HAS ISSUED A

* TORNADO WARNING FOR...
PITT COUNTY IN EASTERN NORTH CAROLINA
BEAUFORT COUNTY IN EASTERN NORTH CAROLINA

* UNTIL 215 PM EDT

* AT 130 PM EDT...NATIONAL WEATHER SERVICE DOPPLER
RADAR INDICATED A TORNADO 5 MILES NORTH OF
WINTERVILLE...MOVING TO THE EAST AT 20 MPH.

* THE TORNADO WILL BE NEAR...
SIMPSON AROUND 140 PM EDT
GRIMESLAND AROUND 145 PM EDT
WASHINGTON AROUND 155 PM EDT

PERSONS IN OR CLOSE TO THE WARNED AREA...TAKE SHELTER IN A BASEMENT
OR SMALL INTERIOR ROOM...AWAY FROM WINDOWS.

LAT...LON 4267 7449 4267 7440 4267 7430 4267

\$\$

5. Severe Weather Statement.

WWUS53 KSTL 192306
SVSSTL
MOC063-192330-

SEVERE WEATHER STATEMENT
NATIONAL WEATHER SERVICE ST LOUIS MO
606 PM CDT FRI JUN 19 1998

...SEVERE THUNDERSTORM WARNING UNTIL 630 PM CDT FOR FRANKLIN COUNTY
IN EAST CENTRAL MISSOURI...

AT 605 PM....SEVERE THUNDERSTORMS WERE LOCATED OVER UNION. AT 604
PM...SPOTTERS REPORTED TENNIS BALL SIZE HAIL 6 MILES WEST OF UNION.
THESE STORMS WILL CONTINUE MOVING NORTHEAST NEAR 40 MPH AND BE
NEAR LABADIE BY 620 PM AND NEAR MATSON BY 625 PM.

\$\$

JACKSON